

**MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY  
PERMITTING AND COMPLIANCE DIVISION**

**RECORD OF DECISION  
for  
Roundup Power Project  
January 31, 2003**

**I. Introduction and Background**

Bull Mountain Development Company, No. 1, LLC (Bull Mountain), proposes to build a coal-fired electricity generation plant, the Roundup Power Project, and related facilities on a 208-acre site about 13 miles south-southeast of Roundup, Montana, in Musselshell County. The plant would consist of two generating units each with a pulverized coal-fired boiler and a steam-turbine generator. The nominal generation capacity would be 780 megawatts.

The boilers would be fueled with coal from the nearby Bull Mountain Mine. Coal would be transported from the mine to the power plant via a 4,000-foot-long conveyor. Power generated by the plant would be transmitted via a 28.2-mile 161kV transmission system, consisting of three circuits, to the Broadview Substation. Boiler water would be supplied by wells drilled into the Madison Formation.

A Draft Environmental Impact Statement (EIS) was prepared to examine the impacts of the proposal and alternatives. The Final EIS adopted the draft as final with modifications.

The Montana Department of Environmental Quality (DEQ) must decide whether to issue an air quality permit needed by Bull Mountain to construct and operate the plant and the conveyor. The transmission line may be subject to the Major Facility Siting Act (MFSA), and a certificate may be needed, pursuant to MFSA, before construction could begin on the transmission line. A water use permit from the Montana Department of Natural Resources and Conservation would be needed for the boiler water.

If DEQ decides to issue the air quality permit, it must further decide which alternative to implement, and what mitigation measures should be applied to reduce environmental impacts. The decision is documented below.

**II. Decisions**

After considering the proposal, issues, alternatives, potential impacts, and management constraints, DEQ has selected the Proposed Action with the addition of the Landfill Alternative. The Proposed Action with the Landfill Alternative is approved for implementation as described in this Record of Decision (ROD). However, DEQ does not have the statutory authority to require Bull Mountain to implement the alternative. DEQ encourages Bull Mountain to adopt the Landfill Alternative as the environmentally preferable means of waste disposal.

A number of mitigation measures to further reduce environmental impacts of the proposal were developed pursuant to the Montana Environmental Policy Act, or MEPA (§ 75-1-201(5)(b), MCA), and are described in Chapter 2 of the EIS. Bull Mountain can implement these mitigation measures voluntarily, or, at Bull Mountain's request, they can be incorporated into a permit or other authority to act. The mitigation measures that Bull Mountain has agreed to implement voluntarily are listed in Section III.A. Bull Mountain has not requested that these mitigation measures be incorporated into a permit or other authority to act, so these measures will not be enforceable. Mitigation measures that Bull Mountain has not accepted are listed in Section III.B.

### **III. Conditions**

#### **A. Conditions Accepted by the Applicant**

##### Construction and Maintenance Access

- CM-1 All construction vehicle movement outside the 300 foot-wide easement will normally be restricted to designated access as negotiated with the landowner, contractor-acquired access, or public roads. Construction activities for the transmission lines will be restricted to and confined within the predefined limits.
- CM-2 Roads will be built at right angles to the streams and drainages to the extent practicable.
- CM-3 Culverts or rock crossings will be installed where needed.
- CM-4 Existing roads will be utilized for construction where feasible.
- CM-5 No paint or permanent discoloring agents will be applied to rocks or vegetation to indicate limits of survey or construction activity.
- CM-6 Prior to construction, all supervisory construction personnel will be instructed on the protection of important cultural, paleontological, and ecological resources.

##### Earth Resources

- ER-1 A Landfill Management Plan will be developed to address potential environmental impacts from proposed waste disposal.

##### Water Resources

- WTR-2 Installation of groundwater monitoring wells in the vicinity of the landfill area would serve to identify groundwater impacts from leachate releases. Groundwater monitoring wells will be installed prior to startup of landfill operation in order to establish baseline conditions. A minimum of three groundwater monitoring wells will be required to characterize groundwater quality and flow direction beneath the landfill area.

### Waste and Cleanup

- WC-1 No equipment will be refueled or greased within 100 feet of a wetland or perennial stream. In addition, fuels, oils, lubricants, herbicides, or other potentially hazardous materials will not be stored within 300 feet of a wetland or perennial stream.
- WC-2 A spill prevention plan will be developed that addresses containment and cleanup of spills affecting surface waters.

### Botanical Resources and Wetlands

- BW-1 Existing vegetation will only be cleared from areas scheduled for immediate construction work and only for the width needed for active construction activities.
- BW-2 All reseeding mixtures used for reclamation will be certified weed-free.
- BW-3 Effective soil erosion control and reseeding of disturbed areas not required for permanent access for the transmission line will be implemented to encourage revegetation.
- BW-4 Transmission line structures will be located to span streams and drainages.

### Wildlife Resources

- WR-1 Harassment of wildlife will not be permitted at any time during Project construction activities.
- WR-2 Construction timing will be altered in specific identified areas where sharp-tailed and sage grouse leks are identified.

### Cultural Resources

- CR-4 Appropriate mitigation measures, including data recovery, will be implemented following consultation with the Montana SHPO, Native American tribes, and other interested parties if a National Register-eligible resource cannot be avoided through project redesign.

### Visual Resources

- VR-1 No paint or permanent discoloring agents will be applied to rocks or vegetation to indicate limits of survey or construction activity.
- VR-2 Wood poles or dulled metal surfaces will be used for the transmission line to reduce visual contrast.

- VR-3 In construction areas where ground disturbance would be substantial or where recontouring would be required, surface restoration will occur as required by the landowner. The method of restoration could consist of loosening the soil surface, replacing rocks or plants removed during transmission line construction, reseeding, mulching, installing cross drains for erosion control, placing water bars in the road, and filling unnecessary ditches.
- VR-4 To minimize ground disturbance over the transmission line route and/or reduce scarring (visual contrast) of the landscape, the alignment of any new access roads or cross-country route will follow the landform contours in designated areas where practicable.
- VR-6 Where possible, the edges of clearings in forested lands or tree groves will be feathered to avoid abrupt, straight lines.
- VR-7 Baffled strobe lights will be installed on Project chimneys to direct light upward rather than outward if strobe lighting is determined to be required by the Federal Aviation Administration (FAA).

#### Noise

- N-1 Careful evaluation of specifications and design selection of typical low-noise design options, equipment specifications, building and wall designs, and enclosure constructions will be made during the design process to ensure that the Generation Plant noise is not excessive.
- N-3 If measured noise levels exceed  $L_{dn}$  55 dBA at the sensitive receptors, then additional noise control measures will be installed, as necessary, to avoid adverse impacts on the sensitive receptors.

#### Land Use and Safety

- LS-1 Existing improvements, such as fences and gates, will be repaired or replaced to their condition prior to disturbance or as agreed to with the landowner, if they are damaged or destroyed by transmission line construction activities.
- LS-2 Temporary gates will be installed only with the permission of the landowner and will be restored to original condition prior to disturbance following transmission line construction.
- LS-3 All existing roads will be left in a condition equal to or better than their condition prior to the construction of the transmission line.
- LS-4 All new access not required for operations and maintenance of the transmission line will be closed using the most effective and least environmentally damaging methods appropriate to that area with concurrence of the landowner.

- LS-6 Warning signs and flag-persons will be used at all roadway crossings during transmission line construction for all state, federal, county, and local roads and highways.
- LS-7 To prevent problems with livestock during the transmission line construction, all fences and gates will remain closed at all times throughout construction unless specified otherwise by the agency manager or landowner.
- LS-8 Bull Mountain and the construction contractors will coordinate activities with property owners to ensure continued access across the transmission line right-of-way for the use of property by the property owner.
- LS-9 Harassment of livestock will not be permitted at any time during Project construction activities.

## **B. Conditions not Accepted by the Applicant**

### Air Quality

- AQ-1 Suggested design and operation mitigation measures include
- Coal cleaning and/or coal preparation
  - NOx control
  - Carbon sequestration, such as planting trees

### Water Resources

- WTR-1 Alternate water supplies may be necessary for a small number of wells that are proven to be directly influenced by reduction of recharge due to the plant construction.

### Wildlife Resources

- WR-3 Install raptor diverters on transmission structures in specific identified locations to discourage raptor roosting and potential raptor predation on certain terrestrial species (e.g., sage grouse on strutting grounds).

### Cultural Resources

- CR-1 Each cultural resource potentially affected by the proposed action should be more completely documented and evaluated so that a formal determination of National Register eligibility can be made by the State Historical Preservation Office (SHPO).
- CR-2 An assessment of effects should be performed if a cultural resource is determined eligible to the National Register.
- CR-3 Adverse effects should be avoided by project redesign, if feasible, if a considerable cultural resource would be affected by ground disturbance.

## Visual Resources

VR-5 Non-specular conductors would be used to reduce visual contrast.

## Noise

N-2 The Proponent would implement noise control measures at the Generation Plant, such as silencers for decreasing noise generated during boiler steam blowout for plant start-up and maintenance.

## Land Use and Safety

LS-5 The Project would comply with any FAA requirements regarding public safety.

### **C. Agency Imposed Conditions**

#### Roundup Power Project Air Quality Permit #3182-00:

The air quality permit imposes limits on gaseous and particulate emissions from the boilers and coal-handling, lime-handling and fly ash-handling facilities, opacity, and particulate emissions from parking lots and roads. The air quality permit addresses sulfuric acid mist control, the best available control technology (BACT) determination for emissions control, the maximum achievable control technology (MACT) for hazardous air pollutants, and visibility impacts. Reporting, record keeping, and notification requirements are also imposed. Details can be found in the attached air quality permit and permit analysis.

At the time DEQ issued the Final EIS, DEQ was still considering some of the issues raised by comments on the Draft EIS. DEQ stated in the Final EIS that it would include final decisions on these issues in the ROD. Those issues included:

- Whether the federal land managers' visibility analysis submitted to DEQ demonstrated that an adverse impact on visibility may result in any mandatory federal Class I areas;
- Short-term SO<sub>2</sub> and NO<sub>x</sub> emission limits;
- An H<sub>2</sub>SO<sub>4</sub> emission limit;
- SO<sub>2</sub>, NO<sub>x</sub>, and PM BACT determinations, including consideration of the BACT determination for the recently-permitted WYGEN2 facility in Wyoming, consideration of SO<sub>2</sub> and NO<sub>x</sub> BACT determinations for other recently permitted facilities, whether BACT requires a wet scrubber with a wet electrostatic precipitator (ESP) to control acid mist instead of a dry scrubber, and whether a dry scrubber can achieve an emission rate lower than 0.12 lb/mmBtu;
- Shortening the timeframe for commencement of construction from 3 years to 18 months;
- NO<sub>x</sub> and SO<sub>2</sub> emissions testing frequency; and
- Record keeping requirements for sulfur content in fuel oil burned.

Since issuance of the Final EIS, the federal land managers have withdrawn their finding of adverse visibility impact on nearby mandatory federal Class I areas, so DEQ has not determined that an adverse impact on visibility may result from the proposed action. See Section VII of the attached Permit Analysis.

DEQ established short-term SO<sub>2</sub> and NO<sub>x</sub> emission limits in the permit as part of the BACT determination and to protect the corresponding Montana Ambient Air Quality Standards (MAAQS). The 24-hour emission limits were established as part of the BACT determination, and the 1-hour emission limits were established to protect the MAAQS. DEQ determined that H<sub>2</sub>SO<sub>4</sub> mist emissions must be controlled by a dry flue gas desulfurization (FGD) system or an equivalent control technology. DEQ also determined that an emission limit is not necessary for H<sub>2</sub>SO<sub>4</sub> emissions because such a limit has not been required of other recently permitted similar sources, and SO<sub>2</sub> emissions are being controlled and limited, which also will control H<sub>2</sub>SO<sub>4</sub> emissions. Furthermore, the SO<sub>2</sub> emissions will be monitored continuously. See also Section II.A.6, Section II.A.7, Section II.A.11, Section II.A.12, and Section II.A.19 of the attached Montana Air Quality Permit #3182-00 and Section III of the permit analysis.

DEQ considered the recent permit decision in Wyoming for WYGEN 2 as well as other recently permitted similar sources before making a BACT determination. Based on the sulfur content and heat content of the Bull Mountain coal in comparison to the coal used at WYGEN 2, DEQ determined that an SO<sub>2</sub> emission limit based on 0.12 lb/MMBtu was consistent with the determination for WYGEN 2. Although the emission limit is not identical, the control efficiency requirement for the control equipment at each power generation facility is very similar. The ability of the dry FGD system required at Roundup to consistently meet a lower emission limit than 0.12 lb/MMBtu is doubtful. After consideration of other collateral environmental impacts (water demand, wastewater generation, solid waste generation, etc.), DEQ determined that wet FGD (with or without a wet ESP) does not constitute BACT. DEQ's final BACT determination for SO<sub>2</sub>, and other pollutants, is discussed in detail in Section IIA of Montana Air Quality Permit #3182-00 and in Section III of the permit analysis.

After further review of the applicable regulations, DEQ decided to reduce the time in which construction must commence from 3 years to 18 months. The applicable regulations for BACT identify that a source must begin construction within 18 months or the permit shall be revoked. Such a requirement within the air quality permit will be consistent with applicable regulations and will ensure that the BACT determination is up to date and based on current control technologies. See also Section III.H of Montana Air Quality Permit #3182-00.

DEQ uses regulation requirements (such as New Source Performance Standards, or NSPS) and internal testing guidance to determine the appropriate frequency of source testing for facilities obtaining a Montana Air Quality Permit. All applicable NSPS source testing requirements will apply to the Roundup Power main boilers. Using DEQ's internal testing guidance allows DEQ to maintain consistency among the regulated facilities in Montana. Based on this internal testing guidance, DEQ is requiring an initial compliance source test for each main boiler for CO and PM<sub>10</sub> emissions. SO<sub>2</sub> and NO<sub>x</sub> emissions will be monitored continuously with a CEMS. After

the initial compliance demonstration, emission testing of each main boiler for CO and PM<sub>10</sub> will continue on an annual basis.

All applicable NSPS source testing requirements will also apply to the Roundup Power auxiliary boilers. Based on DEQ's internal testing guidance, DEQ is requiring an initial compliance source test for each auxiliary boiler for NO<sub>x</sub>, CO, and SO<sub>2</sub>. Subsequent NO<sub>x</sub> and CO testing of the auxiliary boilers will be required every 5 years after the initial compliance demonstration. Subsequent SO<sub>2</sub> testing after the initial compliance source test will be required at the discretion of DEQ. See Section II.B of Montana Air Quality Permit #3182-00 and Section II.A.2 of the permit analysis.

DEQ decided to require record keeping for the sulfur content of the fuel oil used in the auxiliary boilers and the emergency backup generator, to verify compliance with 0.05% sulfur content limit in Air Quality Permit #3182-00, Section II(27).

Rationale: These measures are needed to ensure compliance with state air quality standards.

#### **IV. Implementation**

This decision is effective upon signing of this ROD. The air quality permit becomes effective when 15 days have elapsed after the signing of this ROD, unless a hearing is requested before the Board of Environmental Review within 15 days. Construction must begin within 18 months of issuance of the air quality permit.

##### **A. Other Rights and Permits**

Approval of the permit does not convey or create any real property rights or use rights.

Bull Mountain is responsible for obtaining any property rights, easements, or water rights necessary to implement the permit. Bull Mountain is responsible for obtaining any other local, state, or federal permits, licenses, or reviews that might be necessary to implement the permit.

#### **V. Issues and Alternatives**

The EIS and this ROD have been prepared in response to Bull Mountain's air quality permit application, and issues and concerns identified through public comment. Alternatives were developed to address waste disposal and the transmission system. These issues and the alternative are summarized below and presented in detail in the Draft EIS. The preferred alternative identified in the Draft EIS is the Proposed Action with the Landfill Alternative. This alternative has also been selected for implementation following preparation of the Final EIS. This decision took into account the impacts of the alternatives as well as public comment and the potential for the alternatives to resolve the issues.

##### Public Scoping and Comments

A public scoping meeting was held in Roundup on April 4, 2002.



The Draft EIS was released on November 18, 2002. The Draft EIS presented four alternatives: the no action alternative, Bull Mountain's proposed action, the Landfill Alternative, and the 230kV Transmission System Alternative. The Draft EIS disclosed the affected environment and the environmental consequences of each alternative.

A public hearing was held in Roundup on December 5, 2002, to receive oral comments on the Draft EIS. More than 80 people attended the hearing. DEQ also received 80 letters, about 500 post cards, and more than 1200 electronic comments. The public comment period ended December 18, 2002.

All comments on the Draft EIS were reviewed and considered. The Final EIS adopted the draft as final with modifications. Comments that presented new data, questioned facts or analysis, or raised questions or issues bearing directly on the alternatives or environmental analysis received a response in the Final EIS. Comments expressing personal opinions were considered, but no response was prepared.

## **A. Issues and Alternative Development**

Chapter 1 of the Draft EIS describes the issues raised by agency specialists and the public. The issues are summarized below.

### **Socioeconomic Effects**

- Impacts on schools, law enforcement, and other public services due to in-migration of Generation Plant workers.
- Changes in social setting and attitudes due to in-migration of Generation Plant workers, impacts associated with increased traffic, and infrastructure impacts.

### **Air Quality**

- Impacts due to pollution emissions during Generation Plant operation.
- Global climate impacts due to greenhouse gas emissions during Generation Plant operation.
- Cumulative visibility impacts.

### **Water Resources**

- Impacts on surface water or groundwater quality due to solid waste disposal and other Generation Plant activities.
- Impacts on groundwater levels and supplies due to withdrawals during Generation Plant operation.

### **Noise**

- Disturbance of nearby residents by noise from Generation Plant construction and operation.

### **Infrastructure**

- Adequacy of existing transmission system to carry the Generation Plant output.

#### DEQ Regulatory Actions and Response

- Evaluation/regulation for combined impacts of the Generation Plant and other industrial developments in the region.
- Monitoring of the Generation Plant construction process, including depth of groundwater wells, and response to Generation Plant emissions exceedances of permitted levels.
- Accidents during Generation Plant operations and issues involving the proposed landfill.

#### **B. Alternatives Considered in Detail**

Chapter 2 of the Draft EIS describes the alternatives analyzed and the alternatives excluded from detailed analysis. The alternatives that were studied in detail are the Proposed Action, Landfill Alternative, 230kV Transmission System Alternative, and No Action.

#### **C. Environmentally Preferred Alternative**

The No Action alternative, which would be denial of the air quality permit, is the environmentally preferred alternative. Without the air quality permit, the Roundup Power Project could not be constructed and operated and likely would not be built. The environmental impacts associated with the Roundup Power Project would not occur.

### **VI. Rationale for the Decisions**

#### **A. Rationale for the Selected Alternative**

DEQ has selected the Proposed Action with the Landfill Alternative after considering the potential impacts of all of the alternatives. The selected alternative minimizes the adverse environmental impacts of the Proposed Action by imposing statutorily authorized conditions. Further impact minimization would be provided by conditions that Bull Mountain has volunteered to implement. The applicant's objectives, as described in the Proposed Action, would be appreciably accomplished.

DEQ has selected this alternative over the No Action Alternative because it meets all requirements of state statutes and rules. DEQ has selected the addition of the Landfill Alternative to the Proposed Action because it provides for mitigation of environmental impacts that otherwise might occur under the Proposed Action.

#### **B. Selected Alternative Compliance with Legal Mandates**

This section explains how the selected alternative satisfies DEQ's major statutory, regulatory, and policy mandates.

##### Clean Air Act of Montana

Requirements of the Clean Air Act of Montana and the federal Clean Air Act will be met through compliance with the new air quality permit for the generation plant.

## MEPA Cumulative Effects Assessment

Chapter 4 of the Draft EIS provides cumulative effects analyses. There are no related future actions under concurrent consideration that, when considered in conjunction with past and present actions, are likely to result in additional significant impacts. Should future actions be proposed which have or may have cumulative effects, additional analysis pursuant to applicable requirements of MEPA would be conducted.

## Private Property Assessment Act

A private property assessment checklist has been completed. The conditions imposed by DEQ in implementing the Proposed Action with the Landfill Alternative are needed to meet the requirements of law and, therefore, do not have taking or damaging implications. The conditions that Bull Mountain has agreed to implement have been voluntarily accepted and, therefore, do not have taking or damaging implications.

## **VII. Monitoring and Compliance**

### **A. Agency Monitoring**

Pursuant to state law and the air quality permit issued to Bull Mountain, DEQ's representatives will have access to the facility at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment [e.g., the Continuous Emission Monitoring System (CEMS) and the Continuous Emission Rate Monitoring System (CERMS)] or observing any monitoring or testing, and otherwise conducting all necessary functions related to the permit.

### **B. Applicant Monitoring**

The following monitoring provisions are contained in the air quality permit.

#### Roundup Power Project Air Quality Permit #3182-00:

The air quality permit requires periodic testing of the boilers for emissions compliance, continuous monitoring (e.g., CEMS and CERMS) for SO<sub>2</sub> and NO<sub>x</sub>, annual reporting of the emission inventory and operational periods, and notification of any changes in equipment and fuel specifications. Details can be found in the attached permit.

## **VIII. Hearing Process**

Under the Clean Air Act of Montana, a person who is adversely affected by the permitting decision may request a hearing before the Board of Environmental Review. The request for hearing must be filed within 15 days after the decision and must include an affidavit setting forth the grounds for the request. A permit is not effective until the period for requesting a hearing

expires without a request for hearing or until the Board issues a final decision after a hearing has been requested.

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Jan P. Sensibaugh, Director  
Montana Department of Environmental Quality

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Date